DOCUMENT RESUME

ED 402 696 EA 028 167

AUTHOR	Parrish, Thomas
TITLE	Do Rich and Poor Districts Spend Alike? Issue Brief.
INSTITUTION	American Institutes for Research in the Behavioral Sciences, Washington, D.C.
SPONS AGENCY	National Center for Education Statistics (ED), Washington, DC.
REPORT NO	IB-1-96; NCES-97-916
PUB DATE	Dec 96
NOTE	4p.
PUB TYPE	Collected Works - Serials (022) -- Information Analyses (070) -- Statistical Data (110)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Educational Equity (Finance); Educational Finance; Elementary Secondary Education; *Expenditure per Student; Fiscal Capacity; Fiscal Neutrality; Income; Private Schools; Public Schools; *Resource Allocation; *School District Spending; *School District Wealth; Teacher Student Ratio

ABSTRACT

Given the overall annual expenditure of approximately $250 billion on public education in the United States, there is great interest in how these dollars are allocated to states. This brief presents data showing the relationship between access to public-education resources and community wealth across all school districts in the United States for the 1989-90 school year. The data are from a Research and Development Report (T. Parrish and others, 1995) produced by the National Center for Education Statistics (NCES). The brief compares a measure of community wealth--the median income of the households located within school district boundaries--to three alternative measures of resources available to public schools in the district. The measures of available resources include expenditures per student, expenditures converted to education "buying power," and the average number of students per teacher. Findings indicate that districts with high-income households had more to spend for education, and that converting education expenditures to "buying power" reduced the gap between districts with high-income households and those with low-income households. Finally, student-teacher ratios were lowest in school districts serving students with the highest and the lowest household incomes. In summary, rich and poor districts did not spend alike. Districts enrolling children from wealthier communities purchased student-teacher ratios very similar to those in districts enrolling children from the lowest income districts, which had considerably less to spend. Three figures are included. (LMI)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

NATIONAL CENTER FOR EDUCATION STATISTICS

ISSUE BRIEF

DECEMBER 1996
IB-1-96

Do Rich and Poor Districts Spend Alike?

ED 402 696

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

EA027167

BEST COPY AVAILABLE

ISSUE BRIEF

Do Rich and Poor Districts Spend Alike?

DECEMBER 1996
IB–1–96

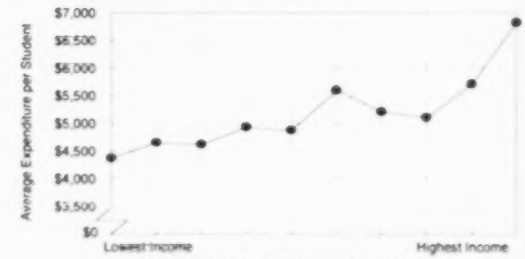
The right to a free and public education has long been considered to be at the heart of the American ideal of equal opportunity for all. The importance placed on public elementary and secondary education services is reflected in an annual expenditure of approximately $250 billion. Given the magnitude of this investment, it is not surprising that there is also a great deal of interest in how these dollars are allocated to students. One result of this interest is a long litigative and research history examining the relationship between access to public education resources and community wealth (e.g., Berne and Stiefel 1984).

The purpose of this brief is to provide a direct view of this relationship across all of the school districts of the nation for the 1989–90 school year. These findings are based on a Research and Development Report (Parrish, Matsumoto, and Fowler 1995) produced by the National Center for Education Statistics. Since this research is intended to be developmental in nature, these results should be considered tentative and suggestive. Although different measures of community wealth and public education resources may be used, in this analysis community wealth is defined as the median income of the households located within school district boundaries.[1] This measure of wealth is compared to three alternative measures of the resources available to public schools in the district. These are expenditures per student, expenditures converted to education "buying power," and the average number of students per teacher. The first measure is in actual unadjusted dollars; the second is an estimate of the relative power of those dollars to buy education resources; and the third is a direct measure of arguably the most critical single education resource, the ratio of students to teachers. While dollars and students per teacher are direct measures of the actual resources received by students, "buying power" is a new concept currently under development by the education research community. These three measures represent a progression from the dollars available for students, to an estimate of the relative power of those dollars to buy education resources, to a direct measure of those resources.

Districts with high-income households have more to spend for public education.

Differences in public education spending are most pronounced at the extremes of median household income (figure 1). The average public education expenditure in districts serving students in the nation's poorest communities (i.e., students in the lowest household income category) is $4,375 versus $6,827 in districts serving students in the nation's richest communities (i.e., in the highest household income category). Setting aside the two extremes, the gap in education expenditures between the remaining districts with moderate-to-high-income households (51st to 90th percentiles) and those with low-to-moderate-income households (11th to 50th percentiles) is still substantial at $637 per student ($5,411 – $4,774).

Figure 1. Public education expenditures in the United States by the median income of households located within district boundaries (1989–90)



Average Education Expenditure per Student in:	
– Districts with the lowest household incomes (0-10%):	$4,375
– Districts with low-to-moderate household incomes (11%-50%):	$4,774
– Districts with moderate-to-high household incomes (51%-90%):	$5,411
– Districts with the highest household incomes (91%-100%):	$6,827

NOTE: Each of the 10 categories of school districts by median household income represents about 10 percent of the nation's public school students.
SOURCES: U.S. Department of Education, National Center for Education Statistics, 1990 Census School District Special Tabulation (summary file set 1); Bureau of the Census, 1990 Census of Governments, Survey of Local Government Finances.

Converting education expenditures to "buying power" reduces the gap between districts with high- and low-income households.

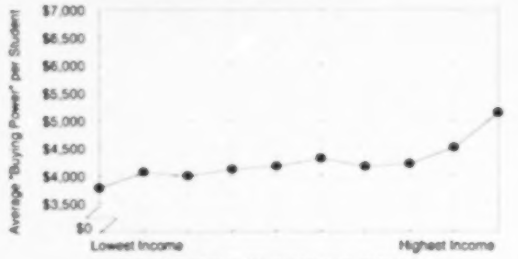
An alternative measure of district spending, "buying power," is currently under development by education researchers. This measure is designed to better capture the relative ability of districts to purchase the staff and facilities needed to provide varying quantities of educational services, and is produced by applying two sets of adjustments to actual expenditure amounts. The first is an index calculated by McMahon and Chang (1991) to reflect regional differences in the cost of living across the nation. This adjustment reflects the fact that an expenditure of $6,000 per student in New York City buys substantially less in actual education resources (e.g., teacher time, supplies, and equipment) than a comparable expenditure in Des Moines, Iowa. The second adjustment used in measuring "buying power" reflects differences in the relative education *need* of students. For example, the same average expenditure per student may not go as far in districts enrolling large percentages of students with special needs as in districts with fewer high-need students.[2]

1. Total property value is the wealth measure most commonly found in school finance literature. However, the purpose of this brief is to explore differences in the levels of education resources received by "rich" and "poor" children. This measure of household income also includes families residing within district boundaries who send their children to private school.
2. This "student need index" includes counts of the three categories of special-need students most prominently recognized through state and federal categorical funding provisions: special education, limited English proficient, and poverty. Because these adjustments assign students with special needs a count greater than one, average "buying power" per student (figure 2) is less than the average expenditure per student (figure 1). For a detailed discussion of these adjustments, see Parrish, Matsumoto, and Fowler (1995).

EA028 167

Disparities in public education "buying power" are also most pronounced at the extremes of variation in median household income (figure 2). However, the expenditure differential between districts serving students in the nation's richest communities and those serving students in the poorest communities is reduced from 56 percent ($6,827 vs. $4,375) in actual expenditures per student (figure 1) to 36 percent ($5,139 vs. $3,782) in "buying power" (figure 2). Similarly, the gap in public education expenditures between the remaining districts with moderate-to-high-income households (51st to 90th percentiles) and the remaining districts with low-to-moderate-income households (11th to 50th percentiles) is reduced from 14 percent ($5,411 vs. $4,774) per student (figure 1) to 5 percent ($4,308 vs. $4,093), as shown in figure 2. Overall, education "buying power" in the United States is shown to be fairly constant from the 11th through the 80th percentiles of median household income.

Figure 2. Public education "buying power" in the United States by the median income of households located within district boundaries (1989–90)



Average Education "Buying Power" per Student in:	
– Districts with the lowest household incomes (0-10%):	$3,782
– Districts with low-to-moderate household incomes (11%-50%):	$4,093
– Districts with moderate-to-high household incomes (51%-90%):	$4,308
– Districts with the highest household incomes (91%-100%):	$5,139

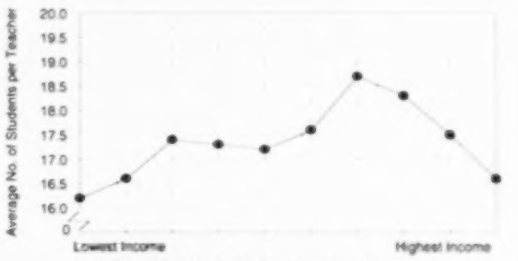
NOTE: Each of the 10 categories of school districts by median household income represents about 10 percent of the nation's public school students.
SOURCES: U.S. Department of Education, National Center for Education Statistics, 1990 Census School District Special Tabulation (summary file set 1); Bureau of the Census, 1990 Census of Governments, Survey of Local Government Finances.

Student/teacher ratios are lowest in districts serving students with the highest and the lowest household incomes.

A third, more direct measure of the quantity of education resources received by students is the average number of students per teacher. The relationship between this measure of education resources and median household income (figure 3) differs from the resource measures shown in figures 1 and 2. In this case, the lowest student/teacher ratios are found in districts with the lowest and the highest income households. Larger ratios are found in the middle ranges of community wealth.

A similar analysis using "pupil need" adjusted student counts produces similar results. However, these ratios rise somewhat in the lowest income districts, resulting in the smallest "pupil need" adjusted student/teacher ratios in the highest median income districts.

Figure 3. Student to teacher ratios in the United States by the median income of households located within district boundaries (1989–90)



Average Student to Teacher Ratio in:	
– Districts with the lowest household incomes (0-10%):	16.2
– Districts with low-to-moderate household incomes (11%-50%):	17.1
– Districts with moderate-to-high household incomes (51%-90%):	18.0
– Districts with the highest household incomes (91%-100%):	16.6

NOTE: Each of the 10 categories of school districts by median household income represents about 10 percent of the nation's public school students.
SOURCES: U.S. Department of Education, National Center for Education Statistics, 1990 Census School District Special Tabulation (summary file set 1); 1989–90 Common Core of Data.

Discussion

What do these three alternative views of the relationship between education expenditures and wealth say about the equality of educational opportunity in the United States? In terms of actual dollars (figure 1), districts enrolling children from high-income communities have more to spend on public education services than districts with children from low-income communities. When converted to education "buying power" (figure 2), the magnitude of this relationship is reduced. These relationships are most pronounced in the districts serving students from the richest and the poorest of the nation's communities. Student/teacher ratios (figure 3) show a different pattern. Despite lower expenditures and less buying power in districts enrolling students from the nation's poorest communities, the data in figure 3 show some of the lowest student/teacher ratios in these districts. These may reflect differing decisions about how dollars should be spent in districts serving the nation's poorest students, spending restrictions associated with their greater reliance on categorical revenues for students with special needs, large numbers of small rural schools in this category of wealth, or other factors.

In summary, these alternative indicators of the relationship between public education resources and median household income show mixed results. They suggest that rich and poor districts do not spend alike. Districts enrolling children from wealthier communities purchase student/teacher ratios very similar to those in districts enrolling children from the lowest income districts, which have considerably less to spend. A closer examination of how dollars are used in rich and poor districts is an important topic for further research.

References:

Berne, R. and Stiefel, L. (1984). *The Measurement of Equity in School Finance*. Baltimore, MD: Johns Hopkins University Press.

McMahon, W.W. and Chang, S. (1991). *Geographical Cost of Living Differences: Interstate and Intrastate, Update 1991*. MacArthur/Spencer Series Number 20. Normal, IL: Center for the Study of Educational Finance, Illinois State University.

Parrish, T.B., Matsumoto, C.S., and Fowler, Jr., W. (1995). *Disparities in Public School District Spending 1989–90*. Washington, D.C.: U.S. Department of Education, National Center for Education Statistics (NCES Research and Development Report No. 95–300).

This **Issue Brief** is based on an NCES Research and Development Report (Parrish, Matsumoto, and Fowler 1995). NCES Research and Development reports were initiated (1) to share studies and research that are developmental in nature, (2) to share the results of studies that are, to some extent, on the "cutting-edge" of methodological developments, and (3) to participate in discussions of emerging issues of interest to education researchers, statisticians, and the federal statistical community in general.

This **Issue Brief** was prepared by Thomas Parrish, American Institutes for Research. For more information on this **Issue Brief**, contact William Fowler (202) 219–1921. To order additional copies of this **Issue Brief** or other NCES publications, call 1–800–424–1616. NCES publications are available on the Internet at http://www.ed.gov/NCES.

NCES 97–916